

MONTHLY NOTICES

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No. I

Lieut.-General J. F. TENNANT, C.I.E., R.E., F.R.S., President,
in the Chair.

Oliver Joseph Lodge, D.Sc., LL.D., F.R.S., Professor of
Physics at the University College, Liverpool,
was balloted for and duly elected a Fellow of the Society.

The following candidates were proposed for election as Fellows of the Society, the names of the proposers from personal knowledge being appended:—

Edward Herbert Lees, Orbost, Victoria, Australia (proposed by R. L. J. Ellery);

John Samuel Slater, Professor of Civil Engineering, Civil Engineering College, Seebpore, Calcutta (proposed by A. M. W. Downing);

J. de Mendizábal Tamborrel, 13 Calle de Jesús, Mexico (proposed by E. B. Knobel);

Arthur Thornton, M.A., Mathematical and Science Master, Giggleswick School, Yorkshire (proposed by E. W. Brown);

William Livingstone Watson, Ayton, Abernethy, Perthshire (proposed by Ralph Copeland).

One hundred and ninety-one presents were announced as having been received since the last meeting, including amongst others:—

J. E. Gore, *Star Groups: a student's guide to the constellations*, presented by the author; T. Gooke & Sons, *On the adjust-*

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ment and testing of telescopic objectives, presented by the authors; F. W. Very, On the distribution of the Moon's Heat and its variation with the phase, presented by the author; Lick Observatory, Reports of observations of the total eclipse of the Sun, December 21-22, 1889, presented by the Observatory; T. W. Backhouse, The structure of the Sidereal Universe, presented by the author; L. Struve, Bestimmung des Mondhalbmessers, presented by the author; C. Flammarion, Copernic et la découverte du Système du Monde, presented by the author; W. Huggins, Address delivered at the Cardiff meeting of the British Association, presented by the author; Th. von Oppolzer, Traité de la détermination des orbites des comètes et des planètes, trad. par E. Pasquier, presented by Mr. R. E. S. Cooper; J. A. C. Oudemans, Die Triangulation von Java, Abth. III., presented by Professor Oudemans; the Photochronograph and its application to star transits, presented by Georgetown College Observatory; J. K. Rees, Catalogue of Prof. Rutherford's photographs, presented by Columbia College; Cincinnati Observatory, Charts and micrometrical measures of nebulae, presented by the Observatory; Lund Observatory, Observations de la zone $+ 35^{\circ}$ à $+ 40^{\circ}$, presented by the Observatory; Photographs of the Spectra of Solar prominences, presented by G. E. Hale; Photographs of the Cluster in *Hercules* and of *Jupiter*, taken at the Lick Observatory, presented by Professor Holden; Slater's Armillary Sphere, presented by Professor Slater; two drawings of *Jupiter*, presented by Mr. G. T. Gwilliam.

Note on the Lunar Theory. By Professor Cayley.

In the Lunar Theory, in whatever way worked out, the values ultimately obtained for the coordinates r, v, y should of course satisfy identically the equations of motion; and that they do so is the ultimate verification of the correctness of the results obtained. It can hardly be hoped for that such a verification will ever be made for Delaunay's results; and yet it would seem generally that the labour of such a verification of the results to any extent, while exceeding (and possibly greatly exceeding) that of obtaining these results by any method employed for that purpose, ought still to be, so to speak, a labour of the same order. And one can, moreover, imagine the process of verification so arranged as to be a process of mere routine which could be carried out by ordinary computers. But, however this may be, I think it is not without interest to exhibit the verification to a very small extent, viz. to e, m^4 .

I think there is an advantage in using capital letters for the arguments, and I accordingly write G (instead of Delaunay's g), to denote the mean anomaly.